Testimony of

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"The Future of Spectrum Policy and the FCC Spectrum Policy Task Force Report"

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Good morning. My name is Michael Calabrese, director of the Spectrum Policy Program at the New America Foundation, a nonpartisan public policy institute here in Washington. I actively participated in the FCC Task Force process, primarily by speaking at two of the public workshops last August and by filing three sets of comments on behalf of a coalition of national consumer and other nonprofit groups. My testimony today reflects the substance of the comments we filed in January, with the Media Access Project, on behalf of the Consumer Federation of America, Consumers Union, the National Alliance for Media Arts and Culture, and other citizen groups.

Before highlighting our concerns about the Report, I'd like to congratulate Dr. Paul Kolodzy and the rest of the FCC staff who served on the Task Force for the dedication and high-caliber professionalism they contributed to this policy review. As an outside participant, I can attest that the staff process was as thorough, thoughtful and open to diverse views as any I have seen in Washington.

We generally agree with the Task Force's "Major Findings" and consider them to be important building blocks for comprehensive spectrum management reform. Particularly significant is the finding that "spectrum access is a more significant problem than physical scarcity of spectrum, in large part due to legacy command-and-control regulation . . .". The Report finds that emerging technologies – such as frequency-hopping "smart" radio technologies – create "the potential for development of services and uses that are not tied to specific frequency bands," or which can dynamically share "white space" within and between existing allocations that currently lay fallow.

In particular, the consumer group coalition strongly endorse what are perhaps the Report's two most central recommendations:

- First, that the traditional licensing system, based on rigid zoning, be replaced by new, more valuable usage rights with enhanced service, technical and market flexibility;

- Second, that allocations of unlicensed spectrum for open and shared access by the public should be expanded – particularly for broadband wireless networking.

Concerning this second objective – expanding the share of spectrum open to the public for unlicensed sharing – important progress is already being made, most recently thanks to the bipartisan efforts of Senator George Allen and Senator Barbara Boxer. Their Jumpstart Broadband Act, which calls for additional unlicensed bands to facilitate high-speed and low-cost wireless Internet access, has already helped to facilitate the recent agreement between the Department of Defense and industry that will enable unlicensed wireless networking in the 5 GHz band without harmful interference to military radar.

A. The Future of Licensed Spectrum

While we agree with the Task Force that a new balance between the "exclusive" rights model and the "commons" model is needed, the staff's proposed means to this end suggests a path at odds with the fundamental principles of the Communications Act and the First Amendment. The Task Force essentially recommends giving incumbent licensees exclusive and permanent property interests in their frequencies (with no compensation to the public) and also designating additional unlicensed "parks" for shared public access (perhaps, if needed, but primarily on less desirable high frequencies). In the future, access to the airwaves would be a commodity traded on secondary markets and free of all obligations except to avoid harmful interference with other users.

However sensible such a "balance" between private property and public parks may sound in theory, in practice the staff Report has embraced a blueprint for the biggest special interest windfall at the expense of American taxpayers in U.S. history. The Report implicitly endorses two transition mechanisms – one based on a proposal by two of the Commission's senior economists, who served on the Task Force, released concurrently with the Report – whereby permanent and exclusive rights to frequencies would be given away to incumbent licensees at no charge.

We believe this Committee should reject any transition to "flexibility" that is premised either on giveaways at taxpayer expense, or upon the vesting of permanent property interests in frequencies, for two fundamental reasons:

First, the economic benefits of "flexibility" can be achieved while maintaining the Communications Act's basic framework of granting exclusive licenses only for limited (and relatively short) terms, reserving residual rights to the public and obtaining, as appropriate, a return to taxpayers for the exclusive, commercial use of frequencies.

Unless license terms are limited and license rights are conditional, as under current law, policymakers will lose the ability to accommodate greater sharing of frequencies, or otherwise reorganize access to the airwaves, as technology and social needs evolve in the future. Just a few years ago, the possibility of facilitating low-cost, wireless Internet access using frequency-agile, software-defined radios capable of dynamically sharing underutilized bands across wide ranges of the spectrum was virtually unknown. Without the ability periodically to review and refashion the rights of both licensed and unlicensed users of the public airwaves, the ability of Congress or of the Commission to exploit such advances for the general public interest could indeed be squandered.

Second, the transition to a more flexible, market-oriented licensing system can be accomplished without conferring a windfall worth hundreds of billions of dollars on incumbents at taxpayer expense – and also without "selling" spectrum at a one-off auction that imposes massive up-front payments on bidders. The consumer coalition comments submitted to the Task Force argued that auction and user fee methods are available to accomplish the goals of spectrum allocation policy mandated by Congress. These statutory goals include the efficient assignment of new license rights among competing firms, securing a fair return to the public and avoiding "unjust enrichment."[1]

In contrast, the Task Force recommends two options that would deprive the public of a return on the airwaves and confer unearned windfalls on incumbent license holders to the detriment of competitors. Under one option, "the Commission grants expanded flexible rights directly to incumbents through modification of their existing licenses."

The other option, noted above, is dressed up as an "auction," but one in which incumbents can opt to sell a permanent property interest in the spectrum they now license and retain 100 percent of the revenue – money that under current law would flow to the public treasury.[2] Because incumbents can decide after the last bid is made not to sell their spectrum – and still receive ownership of the frequencies they now license – the incumbent is the only likely bidder in most bands. The practical effect of the unusual two-sided auction and band restructuring process proposed by the FCC economists is to allow incumbents to acquire permanent ownership of their licensed spectrum, as well as of adjacent guard bands and "white space" (reserve spectrum), at little or no cost. This is not only unfair, but inefficient. When the government fails to get market value for the commercial use of public assets, the foregone payments increase other taxes, or increase the deficit. A conservative estimate, based on the economic literature, is that for every three-dollar increase in income taxes, there is an additional dollar of lost productivity – a deadweight loss on top of the windfall to incumbents.

Because the Commission does not have the legal authority to pursue the two-sided giveaway transition described above, the Task Force Report recommends "that Congress amend Section 309(j) of the Act to include an express grant of authority to the FCC to conduct two-sided auctions and simultaneous exchanges." The logic of both giveaway proposals favored by the Task Force appears to be that spectrum incumbents have so much clout that the only practical way to reduce scarcity is to bribe them to bring their spectrum to market. We urge this Committee to deregulate spectrum management using a mechanism that is consistent with the current legal framework of public ownership, limited-term licensing and increased allocations of spectrum for unlicensed sharing.

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[1] With few exceptions Section 309(j) of the Communications Act requires the FCC to use auctions to award mutually exclusive applications for spectrum license rights assigned to commercial users. The enumerated objectives of spectrum auction policy specified by Congress in the 1996 Telecommunications Act include "recovery for the public of a portion of the value of the public spectrum resource made available for commercial use and avoidance of unjust enrichment through the methods employed to award uses of that resource." 47 U.S.C. § 309(j)(3)(C).

[2] *See* Evan Kwerel and John Williams, "A Proposal for a Rapid Transition to Market Allocation of Spectrum," OPP Working Paper Series, No. 38 (FCC, November 2002).

A Modest Proposal: Spectrum Leasing

By embracing a false choice between "property" and "commons," the Task Force fails to consider an alternative that achieves the efficiencies of "flexibility" without abandoning other statutory and Constitutional values. Fully flexible and hence more valuable licenses can be assigned *in exchange for* modest lease payments to the public by all commercial licensees. Rather than giving away valuable new spectrum rights to incumbents for nothing, or "selling" spectrum at one-off auctions that impose massive up-front payments on bidders, the Commission should "lease" spectrum for a set term of years, allowing commercial users complete flexibility during the term of the lease.

We recommend that Congress adopt a process that combines limited auctions (for new assignments) with annual lease fees that would attach after the initial license period (e.g., after 8 or 10 years), or sooner in the case of current incumbents. All commercial incumbents could be given the option to either accept the new, fully flexible license in exchange for paying an annual lease fee, or to return their license at its expiration for re-auction.

The precedent for this approach is current law governing the allocation of TV channels for digital broadcasting. When Congress granted broadcasters the flexibility to use a portion of the new DTV channel under the 1996 Act for ancillary services (for paid services separate from the obligation to broadcast a primary "free" signal), it provided that licensees must pay a market-based fee the FCC has set at 5 percent of gross revenue. Similarly, the "rent" on spectrum could be calculated as a percentage of the revenue generated through the use of spectrum, or imputed based on the value evidenced by secondary market transactions for spectrum with similar propagation characteristics.

The giveaway proposed by the FCC Task Force is contrary to all federal and state practice. Where scarce and valuable public assets are made available for commerce, a combination of auctions and lease fees generate billions of dollars in public revenue. The Bureau of Land Management and most states administer combinations of auction and leasing fees for the commercial use of public lands for extracting minerals, logging timber, grazing animals and securing rights-of-way for pipelines.[3] For example, in the early 1980s Congress authorized a method known as "intertract competition" to auction mining rights to federal coal tracts in a similar situation, where incumbent owners of adjacent tracts were the only logical bidder.[4] This auction process forces incumbents to

[3] An example of auction, lease and royalty fees paid on a public asset is the Outer Continental Shelf Lands Act of 1953, which has yielded over $122 billion in revenues to the federal government and coastal state governments since 1954. The OCSLA aims to provide "orderly leasing of these lands, while affording protection of the environment and ensuring that the federal government receives fair value for both lands leased and the production that might result." Successful bidders for tracts pay a combination of "bonuses" (up-front cash payments to secure a lease tract), rent of leased tracts (to incent active use of the tract), and royalties (on oil or gas production). Congressional Research Service, "Outer Continental Shelf: Oil and Gas Leasing and Revenue," May 2000. Federal OCS revenue is earmarked for investment through the Land and Water Conservation Fund, a trust fund established in 1964 for the purpose of acquiring new recreation lands, and the National Historic Preservation Fund.

[4] *See* Michael H. Rothkopf and Coleman Bazelon, "Spectrum Deregulation Without Confiscation or Giveaways," New America Foundation, Working Paper (forthcoming, April 2003). Intertract competition

compete with each other and with potential market entrants to acquire the new flexible license rights proposed by the FCC Task Force.

Although spectrum is less tangible and less exhaustible than most other public assets, to the extent that competing commercial users value *exclusive* access to prime frequencies, which remain scarce, then leasing fees for fixed periods can best optimize the policy goals specified in the Communications Act. Leasing fees would serve several important objectives: first, to avoid unjust enrichment and recover for the public an ongoing and market-based return on the public resource of spectrum; second, to provide a market-based incentive for spectrum use efficiency, particularly by incumbent licensees that now use the resource completely free of charge; third, to reduce the up-front auction cost of the new flexible license rights (and of new commercial assignments generally), since bidders would not be anticipating permanent cost-free control of the frequency; and, finally, to encourage capital investment by giving the new incumbents an option to convert, after the initial license term, to a leasing arrangement with expectation of renewal. All commercial licensees would end up on a level playing field, benefit from a more flexible and valuable licensing arrangement, and in return pay a modest annual lease fee back to the public.

Our consumer group comments outlined a possible transition based on flexible licenses, secondary markets, protecting incumbent capital investments, and putting all commercial licensees on a level playing field with respect to the cost of spectrum. One mechanism, most favorable to incumbents, would give current incumbents an option to renew their license with enhanced rights, including service flexibility and the ability to sell or sublease (for the period of the license), in return for paying a market-based user fee. If an incumbent declines to participate, then these additional flexibility rights would be auctioned as an "overlay" license, initially permitting any use that did not cause harmful interference to the incumbent service already operating on the band. Ideally the incumbent's protection from harmful interference would "wear away" after a reasonable number of years. In any case, auctions should be used only for the competitive assignment of the initial term, which could be quite short (and therefore not prohibitively expensive). After the initial license term, the holder of a new flexible license could choose to renew the license subject to a modest annual fee, or return it for re-auction.

Reinvesting Spectrum Revenue in New Public Assets

Finally, when our nation monetizes a common asset, Congress and the states have often chosen to earmark that windfall to pay for new public assets of broad public benefit. Examples include the Land and Water Conservation Fund, which is funded by a portion of the more than $122 billion that has been collected under the federal Outer Continental Shelf Lands Act, and the Alaska Permanent Fund, which pays an annual dividend to every citizen of that state (nearly $2,000 per Alaskan last year) from income earned on public royalties from North Slope oil.

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was reviewed favorably by the Linowes Commission established by Congress in the wake of scandals that shut down federal coal leasing. *See* Report to Congress: Commission on Fair Market Value Policy for Federal Coal Leasing, David F. Linowes, Chairman (1984).

Perhaps the most relevant way to think about reinvesting spectrum revenue is for the purpose of fulfilling the "public interest obligations" that originally justified giving broadcasters free access to the airwaves. These unmet public needs include quality children's programming, educational innovation, local public service media and free media time for political candidates to communicate with voters. Of course, this last purpose – free airtime for federal candidates, financed by a modest spectrum fee on broadcast licensees – was introduced last year by Chairman McCain. We were proud to host the policy forum where Senators McCain and Feingold first described the proposal.

Another compelling use for spectrum revenue focuses on modernizing American education. The "Digital Opportunity Investment Trust," initially proposed by former FCC Chairman Newton Minow and former PBS President Lawrence Grossman, would support innovative uses of digital technologies for education, lifelong learning, and the transformation of our civic and cultural institutions. Under their proposal, an initial $18 billion in future spectrum revenue would be allocated to capitalize the trust fund, yielding a permanent revenue stream of $1 billion or more for investments. We urge the Committee to earmark future spectrum revenue for this important purpose.

B. The Future of Unlicensed Spectrum Sharing

Although we applaud the Task Force recommendation that "the Commission should consider designating additional bands for unlicensed use," we were disappointed both by the Report's tepid commitment to reallocating frequencies below 5 GHz for unlicensed consumer devices in the future, and by its restrictive approach to the opportunistic sharing of underutilized spectrum.

As technology facilitates the sharing of frequencies, it becomes critical that members of this Committee keep in mind the public interest at the very core of this nation's communications policy: the First Amendment. The proper balance between what the Task Force calls the "exclusive rights" model and the "commons" model for access to the airwaves cannot be decided only, or even primarily, using economic criteria. We must keep firmly in mind that when government requires a license to communicate – or grants certain parties instead of others "exclusive rights" to frequencies – this is a form of intrusive regulation that necessarily burdens the ability of other citizens to communicate.

Accordingly, where government does grant exclusive licenses to communicate, it must do so for a good reason and in a manner that promotes First Amendment values. Because only the practical need to manage scarcity can justify licensing exclusive access to the airwaves,[5] Congress should seek to minimize the need for licenses wherever possible. This Committee should therefore adopt an *express preference for unlicensed access* over exclusive licensing. And when the FCC considers additional unlicensed allocations or band-sharing arrangements, the burden should fall to licensees to demonstrate that actual harmful interference will result.

[5] See *Red Lion Broadcasting Co., Inc. v. FCC*, 395 U.S. 367, 387-95 (1969).

The Task Force's own findings support the conclusion that whereas the analog era may have justified a government grant of exclusive rights to a band of frequencies, the development of digital and software-defined ("smart") radio technologies will make it feasible for individual citizens to dynamically share wide ranges of underutilized spectrum without imposing harmful interference on licensed or on other unlicensed users. Unfortunately, however, rather than embrace this opportunity to expand unregulated citizen access and more efficient sharing of frequencies, the Task Force recommends "that in the first instance" the Commission should rely on private secondary market transactions to facilitate shared access by citizens, entrepreneurs and local governments. The Report opines that licensees "will generally find it advantageous to allow others to use unused portions of their spectrum if they are adequately compensated" and that this will occur "at reasonable transaction costs."

We agree with this approach to the extent that the access sought would result in *actual harmful interference* to a licensed incumbent's ongoing operations. To the extent that the unlicensed user would cause harmful interference, the concept of enhancing license rights with complete service, technical and market flexibility anticipates the licensee's ability to negotiate compensation in return for sacrificing (i.e., subleasing) its own access.

However, the Task Force recommends initial and primary reliance on negotiated private transactions whenever the user seeking shared access would be operating above a hypothetical "interference temperature threshold" – a new quantitative measure that would define the total level of RF emission a licensed operator must tolerate in a given band. To the extent this "interference threshold" is more restrictive than necessary to protect against actual harmful interference – or to the extent the threshold concept is not applied to today's incumbent licensees (as the Report implies), or is not reviewed and adjusted upward periodically to reflect advances in receiver technology – it will deter access and sharing.

Moreover, the efficiency of requiring private secondary market transactions breaks down precisely in the situation where dynamic sharing will be most beneficial to the public interest – that is, with low-power, relatively short range and spread spectrum transmissions associated with sharing high-speed Internet access on a wireless basis. Although the Report rather summarily concludes that private secondary market mechanisms can be developed "at reasonable transaction costs," this will be least true for individual consumer devices, similar to Wi-Fi and emerging "smart" broadband networks, that could easily be deterred by access charges.

The 'Special Case' of Broadcast Spectrum

The Task Force Report expresses skepticism concerning the Commission's ability to reallocate to unlicensed citizen use another band comparable to the 83.5 MHz available for a variety of consumer devices (from cordless phones, to Wi-Fi, to microwave ovens) at 2.4 GHz, observing "there is little 'low-hanging fruit' left for unlicensed band use." Yet with only 12 percent of U.S. households still relying on terrestrial over-the-air broadcasting to receive their primary TV signal – and with such a small share of the upper UHF channels in operation nationwide – the broadcast TV bands may be the ideal

space to evolve in a controlled manner, over a period of years, into a new "national park" for open citizen access to the airwaves.

In this regard, the FCC's current Notice of Inquiry on the compatibility of spread spectrum unlicensed uses in the broadcast bands makes a good beginning. This NOI has the potential to open more space to unlicensed uses without 'propertizing' the spectrum first or disrupting existing uses. It focuses on expanding the current benefits of the broadcast bands to the American people, such as through the potential delivery of new broadband services on an unlicensed basis. As the combination of cellular 3G and unlicensed networking makes mobile, high-speed Internet access a reality, consumers and companies will be clamoring for more low-frequency airwaves that penetrate walls, trees and bad weather. The TV bands are the "national spectrum park" that in the not-too-distant future could boost the economy by facilitating high-speed broadband access for both mobile and "last mile" connections.

Yet our nation's outdated industrial policy concerning broadcast spectrum will keep the broadcast bands encumbered for a decade or more. We are making the wrong DTV transition; nearly 90% of American homes rely on cable or spectrum-efficient satellite subscriptions for their primary TV signal. Rather than subsidize broadcasters to continue analog broadcasts indefinitely for fewer than 10% of the country, a hard giveback date could be combined with a refundable tax credit for consumers still relying on analog over-the-air. Paid for with just a fraction of the potential auction or leasing revenue from the returned spectrum, a credit on the order of $150 could give consumers the choice to buy a converter box, or connect to a lifeline cable or satellite subscription service.

This alternative – subsidizing *consumers* with a fraction of the spectrum revenue – is opposite the Task Force approach, which suggests both bribing the broadcasters with spectrum ownership *and* relieving the broadcasters of their statutory public interest obligations. Last June, this Committee wisely shepherded through last-minute legislation to cancel the FCC's scheduled auction of TV Channels 52-to-69 – auctions designed to allow a handful of broadcast companies, led by Paxson Communications, to pocket two-thirds or more of the billions that wireless phone companies seemed willing to bid for space on Channels 60-to-69. The FCC action would have pared as much as $20 billion from the President's budget. Senator Hollings, then Chairman, wrote in a letter to FCC Chairman Powell that allowing firms to "transfer spectrum and earn profits on the spectrum through such arrangements is outrageous" and violates the FCC's role as "public trustee of the spectrum."

Now, less than a year later, the FCC Task Force returns with essentially the same posture, stating that "the continued application of command-and-control policies to commercial broadcasting spectrum could be substantially relaxed, or may not be needed at all, . . ." This ignores the fact that the 1996 Act gave broadcasters additional spectrum valued at $70 billion on the specific condition that it be returned after the DTV transition for public auction. We urge this Committee to reject this giveaway approach and instead to move affirmatively to hasten the return and reallocation of broadcast spectrum – ideally to create a new unlicensed band for shared access and high-speed wireless networking.